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10/019,573	04/25/2002	Andre Walder	B-0494	1652

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EXAMINER

TRAN, HIEN THI

ART UNIT PAPER NUMBER

1764

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,573

Applicant(s)

WALDER ET AL.

Examiner

Hien Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/31/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

Specification

2. The abstract of the disclosure is objected to because of the following:
"Figure 2" in the last line should be deleted.
Correction is required. See MPEP § 608.01(b).
3. The disclosure is objected to because of the following informalities:
On page 5, line 21 --BRIEF DESCRIPTION OF THE DRAWINGS-- should be inserted.
Appropriate correction is required.
4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

5. Claims 1-11 are objected to because of the following informalities:
In claim 1, line 1 "Device" should be changed to --A device--; in lines 2, 8 "of the type" should be deleted.
In claim 2, line 1 --Treatment-- should be changed to --The device--. See claims 3-4 likewise.

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In claim 5, line 1 "Device" should be changed to --The device--. See claims 6-11 likewise.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document which are unclear as to what structural limitation applicants are attempting to recite.

In claim 1, line 14 "the base" has no clear antecedent basis; in lines 13-15 it is unclear as to what structural limitation applicants are attempting to recite, which is supplied directly by the gas pipe, what feeds into the base of the cavity and where the base of the cavity is shown in the drawings.

In claim 5, line 2 "the conical cavity" lacks positive antecedent basis (note that applicants fail to limit the variance of the cavity to the conical shape before limiting the length of the conical cavity (claim 1 recites alternative shapes of the cavity). See claim 6 likewise.

In claim 10, it is unclear as to what structural limitation applicants are attempting to recite by "transverse grating" and where it is shown in the drawings.

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Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. The art area applicable to the instant invention is that of catalytic converter.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

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11. Claims 1-3, 7, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-160511 in view of Leak (3,362,783).

With respect to claim 1, JP 61-160511 discloses a device for the catalytic treatment of exhaust gas, comprising:

an upstream pipe M for admission of the exhaust gas;

a downstream pipe 10 for evacuation of the exhaust gas; and

an essentially longitudinal gas treatment chamber 14 located between the pipes; said gas treatment chamber 14 comprising a catalytic treatment block 16 of catalytic fibers arranged inside the treatment chamber 14; said block 16 comprising at least one upstream admission cavity of frustoconical shape; said cavity having a concave envelope defining an entrance surface 15 for the exhaust gas; wherein said the block 16 of fibers housed transversely with clearance in the chamber 14 in such a way that the peripheral surface of the block 16 forms a first outlet surface for the exhaust gas treated by the block 16.

Since the translation of JP 61-160511 is not available at this time, as best understood, the apparatus of JP 61-160511 is substantially the same as that of the instant claims, but is silent as to whether the catalytic fibers may be metallic fibers impregnated with catalytic compound as claimed.

However, Leak discloses provision of catalytic fibers comprising metallic fibers impregnated with catalytic compounds.

It would have been obvious to one having ordinary skill in the art to select an appropriate fibers, such as metallic fibers impregnated with catalytic compounds as taught by Leak in the apparatus of JP 61-160511, since it has been held to be within the general skill of a worker in the

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art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

With respect to claim 2, JP 61-160511 discloses that the upstream transverse end face of the block of fibers is positioned against an upstream annular entrance flange of the chamber 14 (Fig. 2).

With respect to claim 3, JP 61-160511 discloses the block having a downstream transverse end face 15' forms a second outlet surface for the gas treated by the block.

With respect to claim 7, JP 61-160511 discloses that the treatment chamber 14 is essentially cylindrical and coaxial with the gas admission and evacuation pipes M, 10, and that the block 16 of fibers is cylindrical and mounted coaxially inside the treatment chamber 14, the axial length of the block 16 of fibers being less than that of the chamber.

With respect to claim 11, JP 61-160511 discloses that the chamber is of frustoconical shape on the downstream side to form a funnel 9 feeding into the evacuation pipe 10 and promote the flow of treated gas.

12. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-160511 in view of Leak (3,362,783) as applied to claims 1-3, 7, 11 above, and further in view of Hamblin (3,380,810).

The modified apparatus of JP 61-160511 is substantially the same as that of the instant claims, but fails to disclose whether the downstream end face of the block may be closed and impermeable to the gas so that the gas diffuses only towards the peripheral wall of the chamber.

However, Hamblin discloses provision of a catalyst block (Fig. 3) wherein the downstream end face of the block may be closed via plate 24 and impermeable to the gas so that the gas diffuses only towards the peripheral wall 17 of the chamber.

It would have been obvious to one having ordinary skill in the art to close the downstream end of the block as taught by Hamblin in the modified apparatus of JP 61-160511 so as to diffuse the gas towards the peripheral wall of the chamber, on the basis of its suitability for the intended use as a matter of obvious design choice and since such is conventional in the art and no cause for patentability here.

With respect to claim 5, JP 61-160511 discloses that the cavity extends only part of the length of the catalyst block, but is silent as to whether the cavity may have a conical shape.

However, the shape of the cavity is not considered to confer patentability to the claim. It would have been an obvious matter of design choice to select an appropriate shape for the cavity, such as the conical shape as taught by Hamblin, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

With respect to claim 6, Hamblin shows the conventionality of providing a conical cavity 22 extending the whole length of the catalyst block.

It would have been an obvious matter of design choice to select an appropriate shape for the cavity, such as the conical shape extending the whole of the catalyst block as taught by Hamblin, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill

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in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

13. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-160511 in view of Leak (3,362,783) as applied to claims 1-3, 7, 11 above, and further in view of Scivally et al (3,222,140).

With respect to claim 8, JP 61-160511 discloses that the cylindrical block 16 of fibers is mounted coaxially in the treatment chamber 14 by means of a complementary cylindrical supporting housing 15, 15' that is mounted to the inside of the chamber 14 by an upstream edge (Fig. 2). JP 61-160511 fails to disclose provision of radial lugs as claimed.

However, Scivally et al discloses provision of at least three radial lugs 10 (Figs. 1-2) for proper centering and positioning the catalyst housing members 6,7.

It would have been obvious to one having ordinary skill in the art to provide at least three radial lugs 10 in the modified apparatus of JP 61-160511 for proper centering and positioning the catalyst supporting housing members as taught by Scivally et al.

With respect to claims 9, 10, JP 61-160511 discloses that the peripheral wall of the supporting housing 15, 15' is perforated so that the gas treated by the block can pass therethrough (Fig. 2).

14. Claims 1-2, 4, 6, 7, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamblin (3,380,810) in view of Leak (3,362,783).

With respect to claim 1, Hamblin discloses a device for the catalytic treatment of exhaust gas, comprising:

an upstream pipe 18 for admission of the exhaust gas;

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a downstream pipe 19 for evacuation of the exhaust gas; and
an essentially longitudinal gas treatment chamber 25 located between the pipes; said gas treatment chamber 14 comprising a catalytic treatment block 20 arranged inside the treatment chamber 25; said block 20 comprising at least one upstream admission cavity 22 of conical shape; said cavity 22 having a concave envelope defining an entrance surface for the exhaust gas; wherein said the block 20 housed transversely with clearance in the chamber 25 in such a way that the peripheral surface of the block 20 forms a first outlet surface for the exhaust gas treated by the block 20. Hamblin also discloses that the catalyst block may be mineral wool type.

The apparatus of Hamblin is substantially the same as that of the instant claims, but is silent as to whether the catalytic block may comprise metallic fibers impregnated with catalytic compound as claimed.

The same comments with respect to Leak apply.

With respect to claim 2, Hamblin discloses that the upstream transverse end face of the catalyst block 20 is positioned against an upstream annular entrance flange of the chamber (Fig. 3).

With respect to claim 4, Hamblin discloses that the downstream end face of the block may be closed via plate 24 and impermeable to the gas so that the gas diffuses only towards the peripheral wall 17 of the chamber.

With respect to claim 6, Hamblin shows that the conical cavity 22 extends the whole length of the catalyst block.

With respect to claim 7, Hamblin discloses that the treatment chamber 25 is essentially cylindrical and coaxial with the gas admission and evacuation pipes 18, 19, and that the block 20

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is cylindrical and mounted coaxially inside the treatment chamber 25, the axial length of the block 20 being less than that of the chamber.

With respect to claim 11, Hamblin discloses that the chamber is of frustoconical shape on the downstream side to form a funnel feeding into the evacuation pipe 19 and promote the flow of treated gas.

15. Claims 3, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamblin (3,380,810) in view of Leak (3,362,783) as applied to claims 1-2, 4, 6, 7, 11 above and further in view of JP 61-160511.

With respect to claim 3, the modified apparatus of Hamblin is substantially the same as that of the instant claims, but fails to disclose whether the downstream transverse end face of the block may form a second outlet for the gas treated by the block.

However, JP 61-160511 discloses provision of a catalyst block having the downstream transverse end face forming a second outlet for the gas treated by the block.

It would have been obvious to one having ordinary skill in the art to construct the apparatus so as the downstream end of the block forms a second outlet for the gas treated by the block as taught by JP 61-160511 in the modified apparatus of Hamblin so as to provide more surfaces for exhausting the treated gas, on the basis of its suitability for the intended use as a matter of obvious design choice and since such is conventional in the art and no cause for patentability here.

With respect to claim 5, JP 61-160511 discloses that the cavity extends only part of the length of the catalyst block.

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It would have been obvious to one having ordinary skill in the art to select the length of the cavity, such as the one taught by JP 61-160511 in the modified apparatus of Hamblin , on the basis of its suitability for the intended use as a matter of obvious design choice and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

16. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamblin (3,380,810) in view of Leak (3,362,783) as applied to claims 1-2, 4, 6, 7, 11, and further in view of Scivally et al (3,222,140).

The same comments with respect to Scivally et al apply.

17. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamblin (3,380,810) in view of Leak (3,362,783) and Scivally et al (3,222,140) as applied to claim 8 and further in view of JP 61-160511.

The same comments with respect to JP 61-160511 apply.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Virk et al is cited for showing state of the art.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HT
April 1, 2005

Hien Tran

Hien Tran
Primary Examiner
Art Unit 1764